

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MISSOURI
EASTERN DIVISION**

**AVANTE INTERNATIONAL
TECHNOLOGY, INC.,**

Plaintiff,

vs.

**PREMIER ELECTION
SOLUTIONS, INC.,
and SEQUOIA VOTING SYSTEMS,**

Defendants.

Case No. 4:08cv1367 TCM

MEMORANDUM AND ORDER ON CLAIM CONSTRUCTION

The parties to this suit are manufacturers of electronic voting equipment. The patent case is presently before the Court for Claim Construction of terms disputed by the parties.

Plaintiff, Avante International Technology, Inc., alleges that Defendants, Premier Elections Solutions, Inc., ("Premier") and Sequoia Voting Systems ("Sequoia"), are infringing on three of its patents: U.S. Patent 7,422,150 (the "'150 Patent"); U.S. Patent 7,431,209 (the "'209 Patent"); and U.S. Patent 7,461,787 (the "'787 Patent"). Each of these patents are titled Electronic Voting Apparatus, System and Method. (Defs. Exs. 1, 2, 3.) The '150 Patent is described as a voting apparatus, system, and method that provides two independent means for recording and counting votes. (Defs. Ex. 1.) The '209 Patent is described as a voting apparatus, system, and method that provides data redundancy in that each vote is recorded by two or more independent and verifiable means. (Defs. Ex. 2.) The

'787 Patent is described as a voting system that provides a printed confirmation of voting selections. (Defs. Ex. 3.)

A Claim Construction Hearing was held on July 9, 2009, at which counsel presented arguments but no testimony. Having considered these arguments and the briefs filed by the parties, the Court construes disputed claims in the '150, '209, and '789 Patents as set forth below.¹

Related Terms in Different Patents

The '787 Patent is a continuation application of U.S. Patent 7,036,730 (the "'730 Patent"). Both the '150 and '209 Patents claim priority to the '730 Patent. Moreover, the '209 Patent claims priority to the provisional patent applications 60/278,017 and 60/272,567. (Plf. Exs. D, E.) New material was added to the specifications of the '150 and '209 Patents.

These common derivations and the sharing of common terms require that the Court "interpret the claims consistently across all asserted patents," **NTP, Inc. v. Research In Motion, Ltd.**, 418 F.3d 1282, 1293 (Fed. Cir. 2005), and "interpret[] claim terms consistently throughout various claims of the same patent," **Callicrate v. Wadsworth Mfg., Inc.**, 427 F.3d 1361, 1371 (Fed. Cir. 2005); accord **Paragon Solutions, LLC v. Timex Corp.**, 566 F.3d 1075, 1087 (Fed. Cir. 2009). This is so unless "it is clear from the specification and prosecution history that the terms have different meanings at different

¹The principles governing the Court's claim construction were described in a Memorandum and Order in a previous case between these same parties, represented by the same counsel as presently. See Avante Int'l Tech. Corp. v. Premier Elec. Solutions, Inc., No. 4:06cv0978 TCM (E.D. Mo. Aug. 20, 2007). Those principles will not be repeated here but are incorporated herein by this reference.

portions of the claims.'" **Id.** (quoting PODS, Inc. v. Porta Stor, Inc., 484 F.3d 1359, 1366 (Fed. Cir. 2007)); accord Wilson Sporting Goods, Co. v. Hillerich and Bradsby Co., 442 F.3d 1322, 1328 (Fed. Cir. 2006). Also, distinctions in claim construction between the connected various patents are to be drawn only when necessary. NTP, Inc., 418 F.3d at 1293.

Discussion

I. The '787 Patent

A. Ref. No. 2 "Unique, randomly assigned identifying number" and "Unique identifier"

These terms/phrases are recited in Claims, 1, 17, 20, and 22 of the '787 Patent. Plaintiff proposes the following construction: "A random or pseudo-random number (or alphanumeric character or symbol) or number randomly chosen from a unique sequence of numbers which can be used to correlate the voting selections stored in a tangible medium with the voting selections stored separately from the tangible medium in the voting apparatus's memory." Defendants propose the following construction: "A random or pseudo random number (or alphanumeric character or symbol) or number randomly chosen from a unique sequence of numbers assigned to a particular voting session which the voter takes away at the end of the voting session to enable the voter to identify her voting record from among the voting results published for that particular election."

The language in Claim 1 provides that the randomly assigned identifying number is printed on a paper that is "human readable," "optically readable," or both. (Defs. Ex. 3, Col. 27, ll. 51-55.) Further, the printed paper is provided to "verify[] the voting selections made

during the voting session that are printed on the printed paper." (Id. Col. 27, ll. 56-58.) That piece of paper is called a receipt in the specifications of the patent. (Id. Col 6, ll. 14-15.) "At the conclusion of a voter's voting session, voting machine VM stores the voting record of a voting session and the voting session identifier associated therewith by its processor in its internal memory or memories and provides same to local printer LP which provides . . . a tangible record PR, e.g., in the form of a printed receipt PR, *to the voter*." (Id. Col. 6, l. 66-Col. 7, l. 4) (emphasis added). The specifications further advise that the voter may use the voting session identifier on the receipt to check the voting record and confirm his or her vote. (Id. Col. 7, ll. 48-50.) On the other hand, the patent specifications also teach that the individual voting record may "alternatively" be stored in the non-volatile memory built-in within smart card, hard computer disk, or "any other suitable electronic media, optical media or . . . electronically or optically readable media . . . both within the voting machine or in the smart card." (Id. Col. 22, ll. 1-7, 12-17.)

The foregoing language does imply that the printed paper can be retained by the voting machine or retained by the voter, but the language is not as clear on this issue as that in the '209 Patent, discussed below. Because the language in the '787 Patent is the same as that in the '730 Patent already litigated in this Court, and because the '787 Patent is a continuation of the '730 Patent, the Court is obligated to follow precedent and, adopting its earlier reasoning, construes these terms as it construed the same terms in the '730 Patent. See Avante Int'l Tech., No. 4:06cv0978 TCM, Doc. 276 at 8-13.

There does not appear to be a dispute about the interchangeable use of the terms "voting session identifier" and "unique identifier" or "unique randomly assigned identifying

number." Support for these positions is replete within the patent specifications and in the abstract. (See Defs.' Brief at 13, 14.)

Accordingly, the Court construes the above terms/phrases as follows:

A random or pseudo random number (or alphanumeric character or symbol) or number randomly chosen from a unique sequence of numbers assigned to a particular voting session which the voter takes away at the end of the voting session to enable the voter to identify his/her voting record from among the voting results published for that particular election.

B. Ref. No. 3 "Memory"

This term is recited in Claim 1 of the Patent. Plaintiff proposes the following construction of the term: "A commonly used internal computer component (here within the voting machine or system) which is capable of storing information (e.g. the voting record of each voter) and interacts with the processor." Defendants propose the following construction: "A commonly used internal computer component (here, within the voting machine or system) which is capable of storing the voting record and the [unique randomly assigned identifying number or unique identifier] and interacts with the processor."

Claim 1 provides, in relevant part, that the method for voting claimed includes a step of "[s]toring the voting record including the voting selections made during the voting session in the unique randomly assigned identifying number in a memory." (Defs. Ex. 3, Col. 27, ll. 48-50.) The language in the Claim itself supports Defendants' construction of the term "memory." Moreover, the specifications cited by Plaintiff support the position that the voting session identifier is stored in the "memory." (Id. Col. 8, ll.53-62.) There is no

difference between the cited language in the '787 Patent and the '730 Patent; therefore, the Court adopts its prior construction of the term "memory."

"Memory" is construed as:

A commonly used internal computer component (here, within the voting machine or system) which is capable of storing the voting record and the [unique randomly assigned identifying number or unique identifier] and interacts with the processor.

C. Ref. No. 4 "Printed Paper"

This term is recited in Claims 1, 2, 17, 20, and 22 of the '787 Patent.

Plaintiff provides the following construction: "A non-intangible storage medium separate from the memory of the voting machine (and thus portable), in which the records stored or contained therein if changed would leave evidence of that change. Here, the non-intangible medium is printed by a printer." Defendants' construction is: "A reviewable printout of the voters' voting selections or choices or a corresponding voting session identifier that is retained by the voter." Defendants' interpretation of this term is taken from the Court's construction of the terms "tangible receipt," "printed receipt," and "printed paper" in the prior lawsuit. (See Avante, 4:06cv1978 TCM, Doc. 276 at 26-30.)

The specifications of the instant patent provide that there is a "printed receipt[] for each voter at the conclusion of his voting"; that following the voting session, the voting machine provides a tangible record of the individual's vote "in the form of a printed receipt PR, to the voter"; that each voter may use the voting session identifier to check his or her voting record posted on the printed receipt; and that "[t]he voter may keep the printed record

for his/her own reference." (Defs. Ex. 3, Col. 6 ll. 7-8; Col. 6, l. 66-Col. 7, l. 4; Col. 7, ll. 45-50; Col. 14, ll. 13-14.)

As in the '730 Patent, the term "printed paper" is used to modify the term "receipt" in the '787 Patent. (See id. Col. 9, l. 63.) Moreover, the '787 Patent specifications provide that each voter deposits the smart card into a collection box but the "voter *retains* the printed voting receipt." (Id. Col. 6, ll. 37-41.) (Emphasis added.) This is identical to the language in the '730 Patent specifications. Plaintiff presents no new argument or distinction in the Claim or specification of the '787 Patent that causes the Court to construe "printed paper" in a manner different from the construction of the same term in the '730 Patent.

The term is construed as follows:

A reviewable printout of the voters' voting selections or choices or a corresponding voting session identifier that is retained by the voter.

D. Ref. No. 5 "Providing the Printed Paper for Verifying the Voting Selections Made During the Voting Session that are Printed on the Printed Paper"

This phrase is recited in Claims 1, 2, 17, 20, and 22. Defendants construe this phrase by qualifying that the voting results to be verified are those that "are published after the particular election."

The Court agrees with Plaintiff that this phrase is self-explanatory and requires no Court construction. It would be impossible to verify one's voting selection until after one's vote; consequently, Defendants' limitations on Plaintiff's definition/construction are unnecessary.

E. Ref. No. 6 "Modifying the Voting Record"

This phrase is recited in Claim 2 of the '787 Patent. Plaintiff provides the following construction of the term: "The voting machine provides the voter the opportunity to review and change a voting selection prior to casting the vote and terminating the voting session." Defendants counter that if a construction is required, the term "modifying the voting record" should be limited to modifications of the voting record that occur after the voter compares the voting selections printed on the printed paper to the published voting results for the election. Defendants also argue that there is no enabling disclosure in the specifications supporting the step of modifying the voting record by the voter.

Defendants are wrong. Although the term "modifying" may appear only in Claim 2 of the Patent, a common-sense reading of the specifications cited by Plaintiff clearly provides support for Plaintiff's proposed construction of the term. The background portion of the Patent describes the inventors' desire to eliminate "doubts and fears" concerning the accuracy of an individual's vote and discusses the need for a system or method to confirm and verify voting selections. (Id. Col. 2, ll. 39-59.) The specifications carry that message further. "If desiring to change any selection, either because a mistake has been made or he or she has changed his or her mind, the voter may select a 'change button' to repeat a selection of a particular category or may select a 'start-over button' to start the whole voting process again or may simply press the same button as previously pressed to make a selection to un-make that selection." (Id. Col. 13, ll. 51-57.) And, the voting machine allows the voter to change his or her selections and/or make additional selections. (Id. Col. 16, ll. 64-66.)

The language of the Claim and specifications support Plaintiff's construction of this disputed term. Therefore, the phrase is construed as:

The voting machine provides the voter the opportunity to review and change a voting selection prior to casting the vote and terminating the voting session.

II. The '209 Patent

A. Ref. No. 3 "Voting Session Identifier"

This term is recited in Claims 49 and 82 (80). Plaintiff proposes the following construction of the term: "A random or pseudo-random number (or alphanumeric character or symbol) or number randomly chosen from a unique sequence of numbers which can be used to correlate the voting selections stored in a tangible medium with the voting selections stored separately from the tangible medium in the voting apparatus's memory." Defendants' construction is: "A random or pseudo-random number (or alphanumeric character or symbol) or number randomly chosen from a unique sequence of numbers assigned to a particular voting session which the voter takes away at the end of the voting session to enable the voter to identify her voting record from among the voting results published for that particular election."

The term "voting session identifier" was construed by the Court in the '730 Patent claim construction order. (See Avante, 4:06cv1978 TCM, Doc. 276 at 9-13.) Defendants propose that the Court adopt that same construction of the term. The '209 Patent claims priority to the '730 Patent and to provisional patent applications 60/272,567 and 60/278,017. (Plf. Exs. D, E.) Both these provisional patent applications provide that a receipt is printed with the voter identifier number when a voter finishes voting, and, if the voter does not take

the receipt and the receipt is left in the machine, the voting machine retracts the receipt after a set amount of time. (Plf. Ex. D at 3; Plf. Ex. E. at 8.) This is intrinsic evidence that was not before the Court for the construction of the '730 Patent terms. Indeed, Defendants acknowledge that the '209 Patent contains new material not found in the '730 Patent.

The specifications of the '209 Patent provide that the voting session identifier is printed on a voting receipt. (Def. Ex. 2, Col. 6, ll. 19-31.) The specifications further provide that the voter retains the printed voting receipt containing the voting session identifier. (Id. Col. 6, ll. 61-62.) Further, the specifications provide that "[t]wo independent identical records of the voting are held securely by the voting authorities, i.e. those in the voting machine VM and those in smart cards SC, while the third is held by the individual voters." (Id. Col. 7, ll. 3-6.) The specifications also address the security of a tangible receipt issued to the voter at the end of the voting session. (Id. Col. 27, ll. 65-67.) Moreover, the printed receipt "is retained by the voter for reference and for checking his or her vote against the final posted voting tallies which include the voters' [sic] identifying numbers." (Id. Col. 23, ll. 37-40.) The specifications further provide that "[t]he receipt is then captured in each case at the end of the voting session, as when the voter signals such end or opens the curtain of the voting machine or a given time has elapsed, and the collected receipts serve as an independent verification of the tabulated voting result." (Id. Col. 29, ll. 20-24.) "Where the receipt is collected, the collected receipt may be used for recounting the votes." (Id. Col. 21, ll. 65-67.) "[T]he individual voting records may be stored in any other suitable electronic media, optical media, or even electronically or optically readable media printed on paper, as

may be convenient, both within the voting machine or in the smart card." (Id. Col. 22, ll. 55-60.)

The specifications further teach that there are options on what or who keeps the receipt. "In one alternative, it is preferable that the device that provides the tangible receipt automatically capture [sic] the receipt if it is not taken within a given time, e.g., 5-10 seconds and typically 8 seconds." (Id. Col. 28, ll. 57-60.) The captured receipts are collected and "serve as an independent verification of the tabulated voting result." (Id. Col. 29, ll. 20-24.)

Claim 57 of the Patent verifies this procedure:

The combination of claim 49 wherein the tangible receipt is one of: (a) taken by the particular voter, (b) retained by one of the electronic voting machine and the printer, (c) retained by one of the electronic voting machine [sic] and the printer if not taken within a predetermined time, and (d) a smart card retained and utilized as a provisional ballot to be read at a time after the voter's eligibility to vote is confirmed.

(Id. Col. 46, ll. 36-42.)

The specifications and claim language of the patent support Plaintiff's theory that the voter has the choice to take a receipt, but the Patent provides other options.

Accordingly, the Court construes the term "voting session identifier" as follows:

A random or pseudo-random number (or alphanumeric character or symbol) or number randomly chosen from a unique sequence of numbers assigned to a particular voting session which the voter can take away or is retained by the voting machine at the end of the voting session to provide a record allowing the identification of a voter's voting record.

B. Ref. No. 4: "Memory"

This term is recited in Claims 49, 82 and (80). Plaintiff proposes the following construction of the term "memory": "A commonly used internal computer component (here within the voting machine or system) which is capable of storing information (e.g. the voting record of each voter) and interacts with the processor." Defendants propose the same construction the Court provided in the '730 Patent when construing the term "memory coupled to said processor": "A commonly used internal computer component (here, within the voting machine or system) which is capable of storing the voting record and the [unique randomly assigned identifying number or unique identifier] and interacts with the processor."

The parties' constructions differ in that Defendants wish to include the randomly assigned unique identifying number as an example of what the memory stores whereas Plaintiff argues that the language in the above-listed Claims limits the storage requirement to the "voting record" of each voter.

Claim 49 provides, in relevant part, that the election voting machine is composed of "at least one memory for storing a voting record of each one of a number of voting sessions." (Id. Col. 45, ll. 56-60.) Claim 82 is "[t]he method of claim 80 further comprising tabulating the voting record including at least the voting selections from the memory." (Id. Col. 48, ll. 30-32.) The initial description of the '209 Patent states that the processor for processing voting information "provides a voting record for each voting session and a memory [that] stores the voting record." (Id. Col. 3, ll. 5-7.) Also, "a voting session identifier" is provided by the processor and "means are coupled to the processor for storing a voting indicia and the

voting session identifier for a given voting session in a tangible medium separate from the memory." (Id. Col. 3, ll. 9-13.)

There is a clear distinction between the language of Claim 1 of the '787 Patent which specifically provides that the voting record and the "unique randomly assigned identifying number" is stored in a memory, see Defs. Ex. 3, Col. 27, ll.42-58, and the language in the '209 Patent's Claims 49 and 82 providing that the voting record is stored without mentioning the randomly assigned identifying number. The Patent Claims herein support Plaintiff's construction.

Accordingly, the Court construes the above term as follows:

A commonly used internal computer component (here within the voting machine or system) which is capable of storing information (e.g. the voting record of each voter) and interacts with the processor.

C. Ref. No. 5 "Tangible Receipt"

The term "tangible receipt" is recited in Claim 49 of the '209 Patent. Plaintiff provides the following construction of the term: "A non-intangible storage medium separate from the memory of the voting machine (and thus portable), in which the records stored or contained therein if changed would leave evidence of that change. Here, the non-intangible medium is printed by a printer." Defendants' construction is: "A reviewable printout of the voters' voting selections or choices or a corresponding voting session identifier that is retained by the voter." The relevant Claim includes "a printer providing for each voting session a tangible receipt"

Plaintiff directs the Court to its discussion about the voting session identifier contained in its brief and described herein. The Court adopts its reasoning for the

construction of the term "voting session identifier" discussed above. Additionally, as noted by Plaintiff, the language of Claim 57 would be in direct conflict with the construction proposed by Defendants. Claim 57 provides that the receipt is taken by the voter, retained by the electronic voting machine and printer, retained by the voting machine and printer if not taken within a reasonable time, or retained by the smart card. (Defs. Ex.2, Col. 46, ll.36-42.) Therefore, the receipt can be taken or not by the voter.

Accordingly, the Court construes the term "tangible receipt" as follows:

A reviewable printout of the voter's voting selections or choices that can be retained by the voter.

D. Ref. No. 6 "Printer"

The term "printer" is recited in Claim 49 of the '209 Patent.² Plaintiff provides the following construction for the term "printer": "A commonly known device that provides a specific type of tangible medium (i.e., a printer paper)." Defendants' construction is: "A printer that retains no record of the data printed (including but not limited to a thermal jet printer, a dot matrix printer, an ink-jet printer, a bubble jet printer, a laser printer, and the like)."

Claim 49 states that the printer provides a tangible receipt for each voting session. (Id. Col. 45, ll. 65-66.) The patent specifications provide that the printer is of a type that "retains no record of the data printed" and that the printer is "such as a thermal printer, a dot

²In the parties' joint construction of terms, the term "printer" is said to be recited in Claim 31. Defendants' brief refers to Claim 49 as the appropriate Claim. The Court notes that the term "printer" does not appear in Claim 31 and will construe the term as it appears in Claim 49.

matrix printer, an ink-jet printer, a bubble jet printer, a laser printer and the like, which are conventional." (Id. Col. 11, ll. 55-63.)

Accordingly, the Court construes the term as follows:

A printer that retains no record of the data printed (including but not limited to conventional printers such as a thermal printer, a dot matrix printer, an ink-jet printer, a bubble jet printer, or a laser printer.)

III. The '150 Patent

A. Ref. No. 2 "Memory Coupled To Said Processor"

This phrase is recited in Claim 31 of the '150 Patent. Plaintiff and Defendants repeat their respective same proposed construction of this term that they proposed in the '787 Patent and the '209 Patent. In both of these other patents, the Court relied primarily on the language in the Claims. Here, Claim 31 includes a "non-volatile memory coupled to said processor for storing for each voting session the voting record of voting selections made for that voting session." (Defs. Ex. 1, Col. 44, ll. 32-34.) The specifications of the '150 Patent, however, provide that the voting session identifier is stored in the voting machine memory. (Id. Col. 9, ll. 48-60.) Moreover, all three examples of intrinsic evidence Plaintiff cites in support of its position that the unique randomly assigned identifying number is not necessarily stored in memory may actually support Defendants' proposed construction. Although the actual language of the '150 Patent is similar to that of the '209 Patent, the specifications in the '150 Patent clearly support Defendants' construction, unlike the specifications in the '209 Patent. The distinction in the construction of these similar terms is supported by the Claim language and the specifications of each patent. (See Id. Col. 9, ll. 54-60; Col. 14, ll. 55-60, Col. 22, ll. 45-58.)

Accordingly, the Court construes the phrase "memory coupled to said processor":

A commonly used internal computer component (here, within the voting machine or system) which is capable of storing the voting record and the [unique randomly assigned identifying number or unique identifier] and interacts with the processor.

B. Ref. No. 3 "Printer"

This term is recited in Claim 31 of the '150 Patent. The parties propose the same construction as they proposed in the '209 Patent. Claim 31 provides, in part, "a printer coupled to said processor for printing for each voting session a machine readable paper that contains the voting selections made for that voting session" (Id. Col. 44, ll. 35-37.)

The specifications in the '150 Patent are exactly the same as those in the '209 Patent. (See Id. Col. 11, ll. 54-62.) The relevant portion of the specifications provides that the printer retains no record of the data printed and includes examples of conventional printers that may be used. (Id.) Therefore, the Court construes this term as it construed the same term in the '209 Patent.

A printer that retains no record of the data printed (including but not limited to conventional printers such as a thermal printer, a dot matrix printer, an ink-jet printer, a bubble jet printer, or a laser printer.)

Conclusion

Five references in the '787 Patent, four in the '209 Patent, and two in the '150 Patent were submitted to the Court for construction. That construction is set forth above.

SO ORDERED.

/s/Thomas C. Mummert, III
THOMAS C. MUMMERT, III
UNITED STATES MAGISTRATE JUDGE

Dated this 13th day of October, 2009.